BIOTA REPORT FOR THE SOUTHERN CALIFORNIA EDISON MILLION GALLON TANK PROJECT, TWO HARBORS, SANTA CATALINA ISLAND, LOS ANGELES COUNTY, CALIFORNIA

Prepared for:
Southern California Edison
Corporate Environmental Services
1218 S Fifth Avenue
Monrovia, CA 91016
Contact: Eric Krieg, LSA

Prepared by:

Chuck Schade, Project Manager/Sr. Biologist

February 16, 2015

BRC equals 3

Table of Contents

List of Tables

List of Figures

List of Appendices

1.0 INTRODUCTION

BRC-Equals 3, Inc. (B3) has prepared this Biota Report for the analysis of potential impacts to biological resources resulting from Southern California Edison's (SCE) Million Gallon Tank Repair Project (Project) east of Two Harbors on Santa Catalina Island, Los Angeles County, California (Figures 1 and 2).

The Million Gallon Tank (MGT) was constructed in 1967 to provide 900,000 gallons of water for fire suppression to the USC Wrigley Institute for Environmental Studies (Facility) and to provide 100,000 gallons of drinking water to both the USC Facility and the community of Two Harbors. The MGT is the only source of fire suppression and drinking water for the USC Facility. The community of Two Harbors can receive drinking water from the alternate source of the Twin Tanks. The MGT has provided reliable drinking water and fire suppression service since initial construction. Periodic internal and external inspections have been performed on the MGT since construction. More recent inspections have determined that the tank bottom is corroding from its exterior surface, which is in contact with the ground. Also the interior tank steel protective coating has blistered and those blisters have begun to break. Water is now getting into the cracks and to the tank steel. Prolonging repairs will result in accelerated deterioration of the tank steel due to corrosion from the water coming in contact with the tank steel. The MGT must be taken out of service and repaired. During repair, temporary tanks will supply drinking water to both the USC Facility and the community of Two Harbors. During MGT repair, the temporary tanks will provide reduced fire suppression capability, and an alternate source of fire suppression will be supplied from sea water.

This report documents and describes the existing conditions regarding biological resources in the Project area, and identifies potential impacts to biological resources that may result from construction and implementation of the Project.

2.0 PROJECT DESCRIPTION

As part of the MGT Project, equipment will be needed to supply temporary drinking water capabilities while the MGT is out of service. This equipment will consist of fifteen tanks (thirteen 10,000 gallon and two 5,000 gallon) and interconnecting piping located adjacent to the MGT in currently and routinely disturbed areas.

Ten of these tanks will be charged with MGT water during MGT draining. Three of these tanks will be charged with the last 30,000 gallons of water in the MGT. These 30,000 gallons will be tested to drinking water standards and based on results will add to the total temporary drinking water capabilities or be treated as hazardous waste. Therefore, 100,000 to 130,000 gallons of temporary water storage will be available for drinking water and fire suppression. The temporary tanks will be fed locally from the existing MGT supply piping. The temporary tanks will be physically located directly adjacent to the MGT to reduce the need for additional piping. The temporary tanks will tie back into the normal MGT discharge piping systems to the USC Facility and to the community of Two Harbors directly downstream of these lines discharge valves at the tank.

FIGURE 1. PROJECT VICINITY

FIGURE 2. PROJECT LOCATION

Two additional 5,000 gallon tanks will be used at the MGT to supply blasting water for coating removal. These tanks will be initially charged with MGT water during the MGT draining process, will be filtered and reused during the coating removal process and will be finally disposed as hazardous waste.

2.1 PROJECT MOBILIZATION

Crews will be mobilized from southern and central California to perform all repair activities. These crews will be experienced in working in rugged terrains with job sites that are accessed via secondary roadways, as well as experienced in tank and coating repair.

Materials and equipment will be staged at the normally used MGT work and laydown areas. Materials and equipment will include water tanks, mobile welding rigs, light and medium duty trucks, a fork lift, man lifts or scaffolding, floor replacement steel and barrels containing new coating material and barrels to be used for waste generated as a part of this project.

Materials will also be staged at the USC Facility adjacent to the Fisherman's Cove landing craft ramp. These materials will include two salt water pumps, 12" aluminum and stainless steel piping, pipe fittings and valves.

Construction equipment will include a small track mounted excavator, aerial man lifts for sand blasting and recoating of the MGT interior, two truck mounted or trailer mounted welding units, a 25,000 pound fork lift, a diesel driven 30 kw portable generator, a 5 cubic yard dump truck, 13 portable 10,000 gallon water tanks, and 2 portable 5,000 gallon water tanks. All additional equipment will be stored at the MGT in normal work areas around the tank, or in the tank laydown area adjacent to the tank. All fueled equipment will be checked daily for leaks and monitored for leaks continuously while in service. Refueling will take place on the MGT laydown area, which is outside of the USC Facility lease area and beyond 200' from any waterway. A containment area will be used during refueling.

Steel, new coating material, equipment and other materials for the MGT repair will be landed at Avalon or Two Harbors via barge and will be transported to the jobsite via existing roadways.

2.2 PROJECT COMPONENTS

2.2.1 Major MGT Components

Once the salt water pumps are installed and operational, draining of the MGT will commence. Due to the drought conditions, all MGT water will be used for drinking water or other project needs, such as the 10,000 gallons needed for coating removal. While the MGT is draining, equipment will be placed and piped to enable at least 100,000 gallons of drinking water and fresh water fire suppression capability. The last 30,000 gallons of tank water will be separated and tested to insure it is of drinking water quality. It will be either used for drinking water or disposed of. At this point the tank bottom sediment will be collected and placed in barrels for disposal. Approximately twenty 55-gallon drums will be needed for collection of sediment after the tank is drained.

The outer three-foot radius of tank floor is planned for replacement based on known inspection results. After tank draining and interior coating removal, the tank floor will receive a non-destructive examination. Based on that examination, additional floor area may be replaced up to and including complete floor replacement. Additional tank floor steel will be on hold status from within California suppliers and will be shipped to the job site, if needed, while the existing floor is being removed and on-hand steel is being used to begin the full floor replacement. After floor repair, the tank will be hydrostatically tested.

The existing MGT interior liner will be removed. A new tank liner will be installed. The removed liner will be stored in approximately 35 on-site 55-gallon drums while being characterized for final disposal. Coating removal, surface preparation, new coating application and waste disposal will all be within an approved EPA plan.

After coating application and cure, the tank will be partially filled for hydrostatic testing to meet code requirements. The hydrostatic test will be followed by continuation of tank fill and testing to drinking water standards. Once the tank has been proven to be of drinking water standards and has reached the 900,000 gallon level, it will be placed back into service.

After the tank is placed back into service, all equipment and materials used for the MGT Project will be removed, including all waste products, mobile and stationary equipment and tools.

2.2.2 Water Pipeline Repair and Maintenance

Although separate from the repair work associated with the MGT, SCE will also be performing repair and maintenance activities to replace a short section of piping. This section of piping is approximately 380 feet in length and is the above-ground portion of piping that carries fire suppression and drinking water from the MGT to the USC Facility. The piping will be replaced following the same routing and having supports in the same locations as currently exists. Since initial installation in 1967, the existing pipe supports have incurred significant soil erosion and the pipeline itself has incurred numerous repairs and areas of corrosion. Some of the preparation needed for the MGT repair, namely the installation of a salt water system to supply fire suppression, is also needed while the pipeline is out of service for replacement. The extent of issues along the above ground portion of this pipeline causes the need for the pipeline to be replaced. Performing these needed repairs while the salt water pumps are already installed is more efficient, and ensures limited disruption to the USC Facility and surrounding environment.

2.3 PROJECT SCHEDULE

The estimated start dates for each work activity are provided below (Table 1). These dates may change, and are subject to:

- Amount of MGT floor requiring replacement. ¼ of floor replacement is currently planned and extent of replacement will be determined after MGT drainage, removal of current coating and completion of NDE inspection.
- Weather and condition of roads for safe operations.

TABLE 1. ANTICIPATED PROJECT TIMELINE

Project Component	Anticipated Project Timeline
Install Salt Water Pumps	January, 2015
Install Temporary Tanks	January, 2015
Drain MGT	January, 2015
Repair MGT	February – June/July, 2015
Refill MGT	July-Sept, 2015
Remove Salt Water Pumps	September, 2015

3.0 SURVEY METHODOLOGY

Prior to implementing biological surveys, standard database searches were conducted and reports from previous surveys of the area were reviewed to obtain pertinent information regarding potential special-status species and habitat types. The results of these preliminary database searches provided a basis for addressing the appropriate special-status species within the Project area.

3.1 LITERATURE AND DATABASE REVIEW

Information about documented special-status plant and animal species as well as sensitive natural communities that occur within California was obtained from the California Natural Diversity Database (CNDDB 2015). The CNDDB search included U.S. Geological Survey (USGS) 7.5-minute quadrangles: Santa Catalina North, Santa Catalina South, Santa Catalina East, and Santa Catalina West (Appendix A, Tables 1 and 2).

Additional literature and databases referenced included the following:

- California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants of California containing species-specific habitat requirements for plant species (CNPS 2015).
- The Jepson Manual: vascular plants of California, Second Edition (Baldwin, et al. 2012).
- A Manual of California Vegetation, 2nd Edition (Sawyer, Keeler-Wolf and Evens 2009).
- eBird website (eBird 2012).

Using information from the various listed sources, the potential for special-status species to occur within the Project area was assessed as High, Medium, or Low based on the following criteria:

- High: CNDDB or other documented occurrences have been recorded within one mile of the Project area and suitable habitat is present; or, individuals were observed during field surveys.
- Medium: CNDDB or other documented occurrences have been recorded within five miles of the Project area. Individuals were not observed during field surveys, but have potential to occur during breeding season.

- Low: Marginal habitat may occur in the Survey area but no CNDDB records exist for the species within five miles of the Project area; or, the species in question was potentially misidentified for CNDDB reporting; or, individuals of the species were not observed during field surveys and are not anticipated to be present.

3.2 BIOLOGICAL FIELD SURVEYS

On January 30, 2015, B3 biologist Matt Schaap, who is familiar with the natural resources and sensitive species of the region, conducted a reconnaissance-level botanical and wildlife survey of the Project area. An area delineated by a 500-foot buffer of the proposed work area and access roads was surveyed. The area was methodically surveyed on foot by the biologist for wildlife, dominant plant species, and jurisdictional waters. Due to the timing of the survey in relation to the construction schedule, it was not possible to schedule the field survey during the optimum survey period for all of the special-status plant and wildlife species known to occur in the region. Therefore, the purpose of the field survey was to determine the likelihood of occurrence of any special-status plant or wildlife species based on the presence/absence of suitable habitat and other natural history elements that might predict their occurrence. All plant and animal species observed, or otherwise detected in the survey area are listed in Tables 5 and 6 (Appendix B).

Although the survey was not conducted during the appropriate floristic window for identifying all special-status plants that could occur in the Project area, the survey conditions and timing of the survey were deemed suitable for determining potential biological constraints for the proposed Project. The biologists recorded all dominant plant species encountered during the field surveys. Scientific nomenclature follows the Jepson Interchange *List of Currently Accepted Names of Native and Naturalized Plants of California* (Jepson Flora Project 2012).

Surveys for wildlife species included searching for, and identifying species' diagnostic sign (i.e. audible calls, prints, scat, nests, skeletal remains, burrows, etc.) and habitat features (i.e. rock or debris piles, cavities, and rock outcrops) that may attract and/or support special-status species. Taxonomy and nomenclature for wildlife generally follows Collins and Taggert (2009) for amphibians and reptiles, American Ornithologists Union (AOU 1998) for birds, and Baker et al. (2003) for mammals.

3.3 VEGETATION MAPPING

Vegetation community mapping was conducted within the Project area. Vegetation communities were determined by identifying the dominant and co-dominant plant species. Once the dominant and co-dominant species were determined, the community boundary was delineated. The delineated boundary was hand--drawn on field maps and representative GPS coordinates were taken along the boundary to provide reference points for GIS mapping of vegetation community polygons. The vegetation communities were defined to an alliance and association level based on the guidelines within the *Manual of California Vegetation: Second Edition* (Sawyer et al. 2009).

4.0 RESULTS

4.1 EXISTING ENVIRONMENTAL CONDITIONS

The Project area is situated along the top of a ridge approximately 0.25 miles southwest of the USC Wrigley Institute for Environmental Studies and approximately 0.25 miles east of Two Harbors Campground (Figure 2). Elevation of the site varies from 150 feet above mean sea level (amsl) along Fisherman's Cove Road, to approximately 540 feet amsl near Laydown Area # 3. Temperatures vary in this region, with highs typically around 70 degrees Fahrenheit in the summer to near 55 degrees Fahrenheit in the winter (NOAA 2012). Average rainfall varies from 7 to 17 inches per year.

The MGT and associated laydown areas are situated in previously disturbed areas surrounded by Coastal Sage Scrub, Non-Native Annual Grassland, Lemonadeberry Scrub Oak Woodland, and Developed habitats. The existing waterline extends from the MGT and heads northwest to Fisherman's Cove Road. Two small unnamed drainages area located within the survey are. One small ephemeral drainage is situated within a canyon on approximately 275 feet from the MGT and second ephemeral drainage is located 325 feet to the east of the Project area. All components occur within the Santa Catalina North, California United States Geological Survey (USGS) 7.5-minute series topographic quadrangle

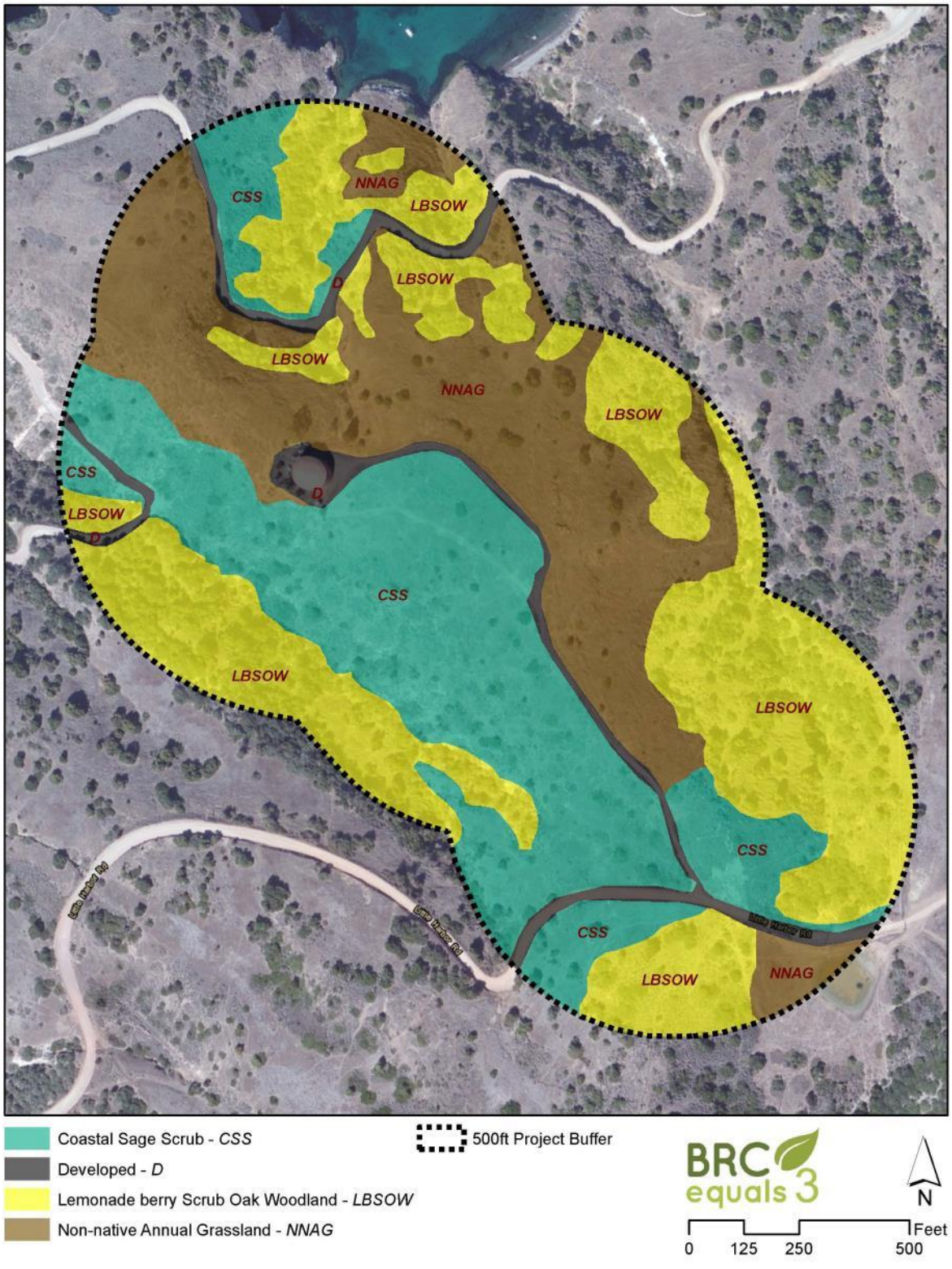
4.2 VEGETATION COMMUNITIES

Four vegetation communities/alliances were identified within the survey area around the Project area that include Coastal Sage Scrub, Lemonadeberry Scrub Oak Woodland, Non-Native Annual Grassland, and Developed/Disturbed (Figure 3; Appendix C: Photos 1-4).

4.2.1 Coastal Sage Scrub

Coastal Sage Scrub or Insular Coastal Sage Scrub is the dominant vegetation type within the Project area. Coastal Sage Scrub occurs on Catalina Island on south facing slopes. Insular Coastal Sage Scrub is dominated by California sagebrush (*Artemisia californica*), California brittle bush (*Encelia californica*) and prickly pear cactus (*Opuntia littoralis*). This vegetation type is found at the Project site primarily on south-facing canyon slopes, but also on north facing-slopes. The Project area alliance is California Brittle Bush Scrub Shrubland Alliance (Sawyer et al. 2009) which is dominated by California brittle bush with co-dominant species of California sagebrush and prickly pear. A few species typical of island chaparral occur in this community including California rockflower (*Crossosoma californicum*). The vegetation integrates with Non-Native Annual Grassland and Scrub Oak Lemonadeberry Woodland.

FIGURE 3. VEGETATION COMMUNITY MAP.



4.2.2 Non-Native Annual Grassland

The Non-Native Annual Grassland is dominated by a variety of non-native grasses which include wild oats (*Avena* sp.) and red brome (*Bromus rubens*). This community supports some native grasses, but these are not as extensive or abundant as non-native species. The Non-Native Annual Grassland occurs along ridgetops and between open canopy areas of California Brittle Bush Scrub Alliance.

4.2.3 Lemonadeberry Scrub Oak Woodland Alliance

This alliance is not defined by Sawyer et al. (2009). The community is dominated by island scrub oak (*Quercus pacifica*), toyon (*Heteromeles arbutifolia*), and lemonadeberry (*Rhus integrifolia*). Other species in this community include California rockflower and dudleya (*Dudleya* sp.). This community is found on canyon slopes and valley bottoms. The community integrates with the California Brittlebush Scrub Alliance.

4.2.4 Developed

Developed areas are areas that have been developed with manmade structures or cleared paved or graded surfaces, and generally lacking native plant assemblages. Vegetation that does exist is predominately landscaped with non-native, ornamental species.

4.3 SPECIAL-STATUS PLANT SPECIES

Special-status plant species with the potential to occur in the Project Area are shown in Table 3 (Appendix A), along with their habitat suitability and an indication of their known presence, or assessment of their potential to occur within the Project area. A total of six special-status plant species were documented in the Project area. Based on the presence suitable habitat within the Project area and nearby documented occurrences, five additional special-status species were determined to have a high likelihood of occurring within the Project area, and eleven were determined to have a medium likelihood of occurring within the Project area (Figure 4). A complete list of plant species observed is located in Table 5 (Appendix B).

The following special-status plant species were observed on the Project site at the time of the survey.

- California Rockflower (*Crossosoma californicum*)
- Island Green Dudleya (*Dudleya virens* ssp. *insularis*)
- Santa Catalina Island Buckwheat (*Eriogonum giganteum* var. *giganteum*)
- Showy Island Snapdragon (*Gambelia speciosa*)
- Island Poppy (*Eschscholzia ramosa*)
- Island Scrub Oak (*Quercus pacifica*)

4.3.1 California Rockflower (*Crossosoma californicum*) – CNPS 1B.2

Crossosoma californicum is perennial deciduous shrub. It is typically associated with rocky substrates in Chaparral and Coastal Scrub communities below 1,600 ft amsl. It is known from

populations documented in Los Angeles County south to Baja California; including San Clemente and Santa Catalina Islands. This species generally blooms between February and May (CalFlora 2015). *C. californicum* is documented by CNDDB to occur within the Project vicinity (Figure 4). *C. californicum* is was found primarily on slopes outside of the Project area within Coastal Sage Scrub vegetation, however; *C.californicum* was also found within the Project area near Laydown Areas #1, #2 and #3 and along the existing waterline (Figure 5).

4.3.2 Island Green Dudleya (*Dudleya virens ssp. insularis*) - CNPS 1B.2

Dudleya virens ssp. *insularis* is a perennial succulent that is typically associated with Coastal Bluff Scrub and rocky Coastal Scrub communities from 16 to 1,000 ft amsl. *D. virens* ssp. *insularis* has been documented to occur from Ventura and Los Angeles Counties on San Nicholas and Santa Catalina Islands. The bloom period for this species is from April to June (CalFlora 2014). *D. virens* ssp. *insularis* was observed within rocky areas primarily to east and west of the Project area within Coastal Sage Scrub and Lemonadeberry Scrub Oak Woodland (Figure 5). This species is closely related to, and has been documented to hybridize with, *D.virens* ssp. *hassei*. Both Species have been documented within CNDDB to occur within close vicinity to the Project area (Figure 4). Based on the measurements taken from the individuals observed on site, it most likely *D. virens* ssp. *insularis* that is present on the site, however, without flowers it is difficult to positively identify the subspecies.

4.3.3 Santa Catalina Island Buckwheat (*Eriogonum giganteum* var. *giganteum*) - CNPS 4.3

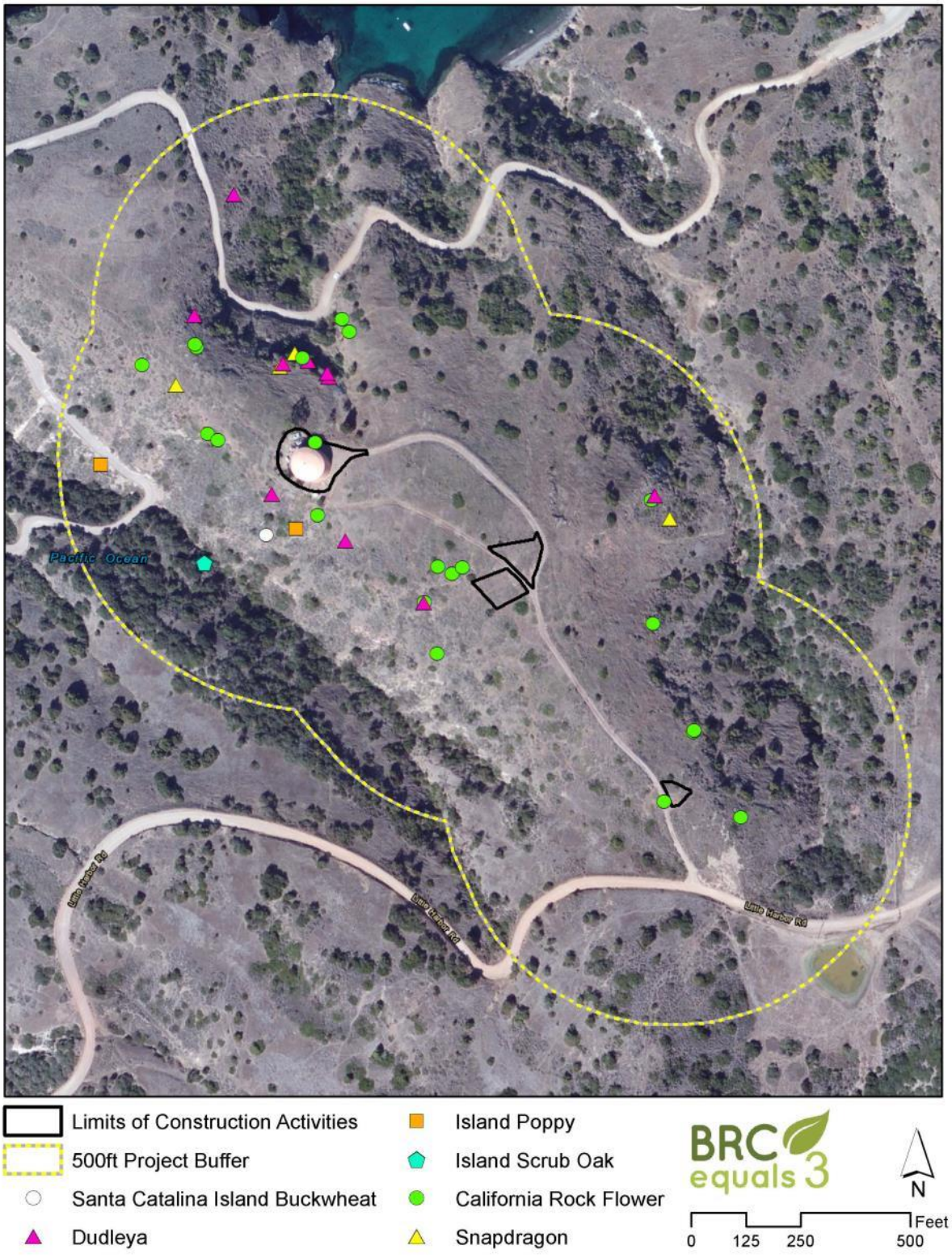
Eriogonum giganteum var. *giganteum* is *a* perennial evergreen shrub. It is typically associated with dry, rocky slopes in Coastal Scrub and Chaparral, from 30 to 1,750 ft amsl. *E. giganteum* var. *giganteum* occurrence is specific to Santa Catalina Island. The known blooming period for this species is March to October (CalFlora 2014). One small population of *E. giganteum* var. *giganteum* was observed in a steep rocky slope within Coastal Sage Scrub in the southern portion of the Project area, outside of the anticipated impact area (Figure 5).

4.3.4 Island Poppy (*Eschscholzia ramosa*) - CNPS 4.3

Eschscholzia ramosa is typically found in Coastal Bluff Scrub, Coastal Scrub, and Chaparral communities, often along grassy or rocky areas below 1,250 ft amsl. The species is only known from populations that have been documented on the Channel Islands and Guadalupe Island. This species generally blooms between March–to May (CalFlora 2014). *E. ramosa* was observed on east-facing slopes within Coastal Sage Scrub communities, outside of the anticipated impact area (Figure 5).

FIGURE 4. DOCUMENTED OCCURRENCES OF SPECIAL-STATUS SPECIES (CNDDB).

FIGURE 5. SPECIAL-STATUS PLANT SPECIES OBSERVATIONS.



4.3.5 Showy Island Snapdragon (*Gambelia speciosa*) - CNPS 1B.2

Gambelia speciosa is a perennial shrub that primarily occurs along rocky canyons in Coastal Scrub communities, below 3,000 ft elevation and is only known to occur on the Channel Islands and Guadalupe Island. This species generally blooms between February and May (CalFlora 2014). *G. speciosa* was observed within rocky slopes in Coastal Sage Scrub communities outside of the Project impact area (Figure 6).

4.3.6 Island Scrub Oak (*Quercus pacifica*) - CNPS 4.2

Quercus pacifica is an evergreen shrub found in Closed-cone Coniferous Forest, Chaparral, and Cismontane Woodland communities below 1,000 ft amsl. This species generally blooms between March and April (CalFlora 2014). *Q. pacifica* was observed near the bottom of a slope within Lemonadeberry Scrub Oak Woodland within the southern portion of the Project area (Figure 5).

4.4 SPECIAL-STATUS WILDLIFE SPECIES OCCURRENCES

Special-status wildlife species with the potential to occur in the Project Area are shown in Table 4 (Appendix A), along with their habitat suitability and an indication of their known presence, or assessment of their potential to occur within the Project area. Two special-status species, Island loggerhead shrike (*Lanius ludovicianus anthonyi*) and Santa Catalina Island fox (*Callipepla californica catalinensis*), were documented within the Project area during the survey. Three additional special-status species were determined to have a high likelihood of occurring within the Project area, and one special-status species was determined to have a medium likelihood of occurring within the Project area.

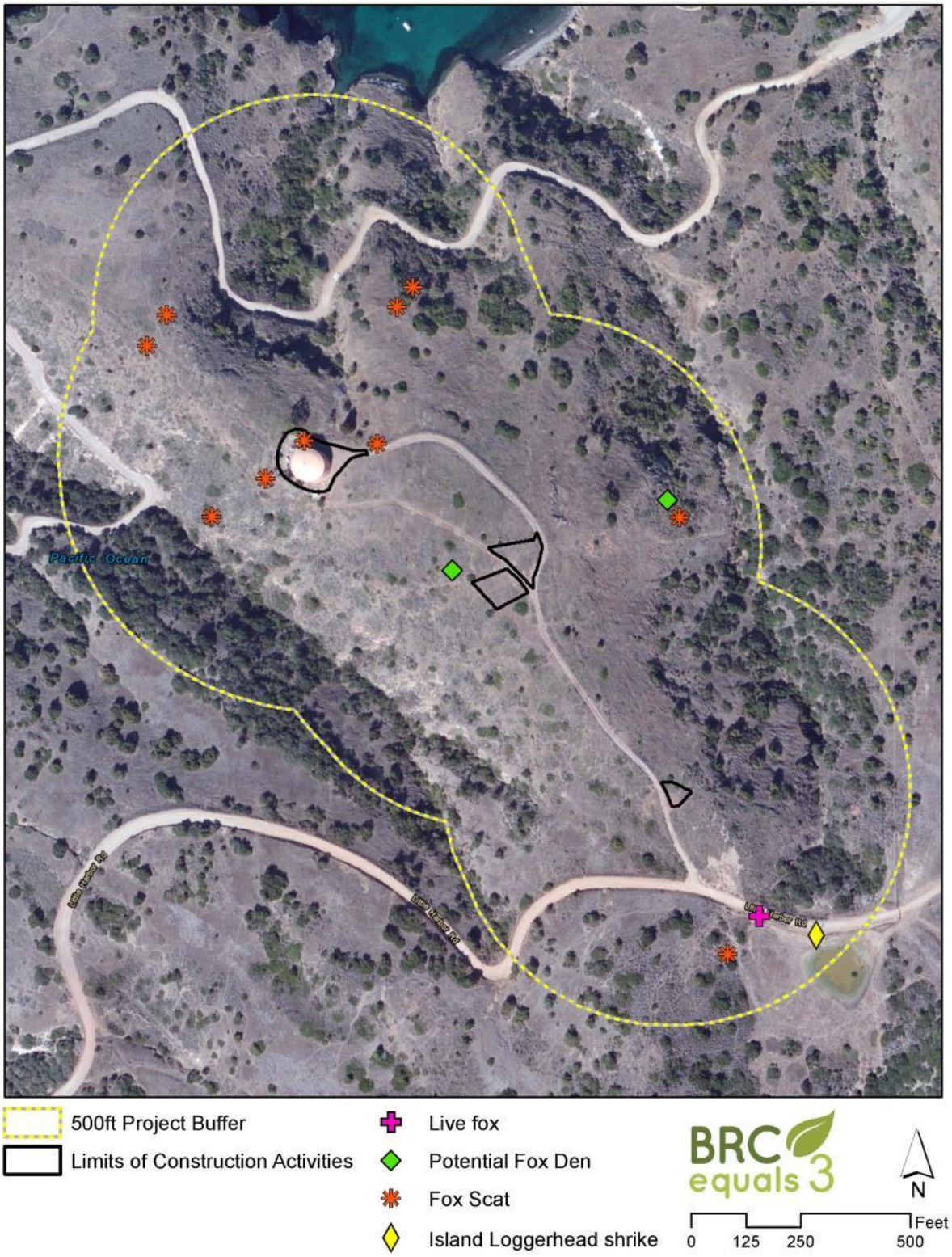
4.4.1 Catalina California Quail (*Callipepla californica catalinensis*) - CDFW SSC

Catalina California quail is a common, permanent resident of low and middle elevations in shrub, scrub, and brush, open stages of conifer and deciduous communities, and margins of grasslands. Catalina California quail is endemic to Santa Rosa Island, but is also found in Santa Rosa and Santa Cruz Islands. No Catalina California quail were observed at the time of the survey; however, a review of the eBird database identified several sightings near the Two Harbors Campground and the USC facility. Suitable nesting and foraging habitat is present within the Project area.

4.4.2 Island Loggerhead Shrike (*Lanius ludovicianus anthonyi*) - CDFW SSC

Island loggerhead shrike is typically found in open fields with scattered trees or shrubs, open country with short vegetation, pastures, old orchards, riparian areas, and open woodlands; restricted to Santa Catalina and the northern Channel Islands. A single male Island loggerhead shrike was observed singing on a fence post on the southern end of the Project area (Figure 6). No nesting activity was observed at the time of the survey; however, suitable nesting and foraging habitat is present within the Project area. Island loggerhead shrike could nest within the Lemonadeberry Scrub Oak Woodland in the Project area.

FIGURE 6. SPECIAL-STATUS ANIMAL OBSERVATIONS.



4.4.3 San Clemente Spotted Towhee (*Pipilo maculatus clementae*) - USFWS BCC; CDFW SSC

San Clemente spotted towhees are typically found in areas of dense Chaparral and woodlands (oak woodland and island woodland) communities that contain well-developed leaf litter and humus, sheltered by overhead branches and foliage. No San Clemente spotted towhees were observed at the time of the survey; however, suitable nesting and foraging is present within the Project area.

4.4.4 Allen's Hummingbird (*Selasphorus sasin*) - USFWS BCC

Allen's hummingbird breeds in moist coastal areas of Coastal Sage Scrub, Chaparral, and Forest communities, and winters in forest edge and scrub clearings with flowers. No Allen's hummingbird was observed at the time of the survey; however, a review of the eBird database identified several sightings near the Two Harbors Campground and the USC facility (eBird 2015). Suitable nesting and foraging habitat is present within the Project area.

4.4.5 Santa Catalina Shrew (*Sorex ornatus willetti*) - CDFW SSC

Santa Catalina shrew typically occurs on larger stream-bearing canyons of Valley Foothill Riparian areas on Santa Catalina Island. Santa Catalina shrew prefers moist areas; uses stumps, logs, and litter for cover. A search of the CNDDB identified locations of Santa Catalina shrew within drainages located to the east of the Project area. No Santa Catalina shrews were observed at the time of the survey; however, suitable habitat is present along the drainages located to the east and west of the Project area.

4.4.6 Santa Catalina Island Fox (*Urocyon littoralis catalinae*) - USFWS FE; CDFW ST

Santa Catalina Island fox inhabits more complex, layered vegetation in mixed Chaparral, Coastal Scrub, and shrubby Woodland communities of Santa Catalina Island. Dens are typically located in hollow stumps, or logs, and under rocks in areas of dense brush, and rocky areas. Fox scat and latrines were observed throughout the Project area (Figure 6; Appendix C: Photo 10). In addition to scat, two potential den sights were observed within the survey area. One den site was located under a rock on the eastern side of the survey area, and the second potential den location was situated approximately 100 feet north of Laydown Areas #1 and #2 (Figure 6; Appendix c: Photos 8 and 9). A single Santa Catalina Island fox was observed foraging within the grassland communities located on the southern end of the survey area. Based on the presence of suitable habitat and the presence of Santa Catalina Island fox and fox sign, the site is commonly used for foraging, and potentially denning by this species.

TABLE 2. SANTA CATALINA ISLAND POTENTIAL FOX DEN LOCATIONS

Den Number	UTM, Zone 11S	Potentially Affected by Construction
1	361975 m E 3701148 m N	Yes
2	362123 m E 3701232 m N	No

4.5 SIGNIFICANT ECOLOGICAL AREA (SEA)/COASTAL SENSITIVE ENVIRNOMENTAL RESOURCE AREA (SERA)

None of the proposed project elements are located within any SEA/SERA designated areas. The Blue Cavern Point SEA boundary is located approximately 2,500 feet east of the Project area, and the Upper Isthmus Canyon SEA boundary is located approximately 2,800 feet north of the Project area. Both SEAs are located within different drainages/canyons and are not expected to be affected by the project.

4.6 DRAINAGES, LANDFORMS, AND GEOLOGIC FEATURES

The Project area is located near two ephemeral drainages; the first is located approximately 325 feet east of the Project. The second ephemeral draining is located approximately 400 feet south of Laydown Site #2. The Project impact area is located in primarily in Non-Native Annual Grassland and areas that have been previously disturbed. All of the proposed work areas are on relatively flat ground with clay to clay loam soils (USDA 2008). The drainages are located outside of the Project area and will not be impacted as a result of Project-related activities.

5.0 SURROUNDING AREA LAND USE

The proposed project area is located in the Southern Channel Islands district within the Channel Islands Sub-region of the Southwestern California Region of the California Floristic Province (Baldwin et al. 2012). The Southern Channel Islands are geologically and floristically more isolated and more diverse among themselves than the Northern Channel Islands, since they were not readily colonized from the mainland during glacial times.

The natural vegetation of the island consists primarily of chaparral, coastal sage scrub, annual grasslands, and some woodland and riparian scrub. Much of the local area surrounding the project area is composed of natural plant communities, with few manmade facilities. Nearly the entire island has limited access and uses, as most (88 percent; 42,135 ac) of it is managed as a reserve by the Catalina Island Conservancy (Conservancy).

5.1 EXISTING LAND USES

The island has many unique natural qualities and established amenities, all in relatively close proximity to mainland Southern California; as a result, the Island receives on average approximately 1 million annual visitors. Overall, despite the high number of visitors, the project

area is directly affected by relatively few people given its remote location on the island. The land uses in the surrounding areas include grazing by several small herds of American bison (*Bison bison*), Two Harbors Campground and the USC Wrigley Institute for Environmental Studies.

5.2 OPEN SPACE RESERVES AND MOVEMENT CORRIDORS

Existing land uses are limited, and open space areas are well established because most of the Island is protected and managed by the Conservancy, and the County of Los Angeles has established SEAs throughout the island to further protect biological resources. The Conservancy-managed lands include the majority (88 percent) of the island and, as part of the Conservancy management plan, there is limited human access and activities to minimize adverse effects to plants, wildlife, soils, and water quality.

The majority of the remainder of the island is owned by the Santa Catalina Island Company (SCIC) and managed to support tourism in a sustainable manner. All three well sites occur on land owned by the Santa Catalina Island Company and are located within the OC/SF (Organized Camps and Special Facilities) district in the Santa Catalina Specific Plan. All the prospective project facilities have wildlife sign and/or trails even though they are in close proximity, or adjacent to, existing dirt roads and low frequency of human activity.

Wildlife movement corridors link together areas of suitable wildlife habitat that are otherwise separated by physical barriers, changes in vegetation, or human disturbance. However, given an open space area that is large enough to maintain viable populations of species and variable enough to provide a variety of opportunities for movement, wildlife will use local travel routes when searching for food, water, shelter, and mates. Some travel routes (e.g., large drainages and canyons) that have particularly dense cover, ample resources, or are otherwise very attractive to wildlife serve as important sources for food, water, and cover, particularly for small and medium-sized animals. This is especially true if the travel route is within a larger open space area.

It is not expected that the Project area is a unique wildlife movement corridor linkage, as much of the habitat and terrain is similar throughout the area. Within the Project area, wildlife sign (e.g., tracks, fur, and scat) of Santa Catalina Island fox, American bison, and mule deer (tracks and scat) (*Odocoileus hemionus californicus*) were observed. The American bison is not native to the Island; however, the Santa Catalina Island fox is an indigenous federally listed endangered species that is known to use the immediate area (CNDDB 2014).

6.0 CONSIDERATIONS AND LIMITATIONS

6.1 CONSIDERATIONS

6.1.1 Jurisdictional Waters/Wetlands

The Project area is located near two ephemeral drainages; the first is located approximately 325 feet east of the Project. The second ephemeral draining is located approximately 400 feet south of Laydown Site #2. No potential jurisdictional waters of the United States regulated by the United States Army Corps of Engineers (Corps), the California Department of Fish and Wildlife (CDFW), or the Regional Water Quality Control Board (RWQCB) were found to be present within a 50-ft radius of the proposed work sites.

6.1.2 Oak Tree Ordinance

The Los Angeles County Oak Tree Ordinance makes it illegal to cut, destroy, remove, relocate, inflict damage upon, or encroach into the protected zone of any tree of the oak tree genus, which is 8 inches or more in diameter at 4.5 ft above mean natural grade (or in the case of oaks with multiple trunks, those with a combined diameter of 12 inches or more of the two largest trunks) without first obtaining a permit. In addition to protection by the County, three of the nine oak types (species and hybrids) on the island have been assigned CRPR 4 status: *Quercus pacifica*, *Q. tomentella* and *Q. engelmanii*. Island scrub oak and Macdonald oak (*Q.* x *macdonaldii*) were documented in the survey area; however no oaks will be adversely impacted by the proposed actions.

6.1.3 Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA) protects the nests of all native birds. Impacts to vegetation should be avoided during the nesting season, generally considered to be February 1 through September 30 for most bird species. A pre-construction survey by a qualified biologist, and monitoring if needed, is recommended for all construction activities in areas that support potential nesting habitat. Construction delays may result if active nests are found in the work area and are unavoidable.

6.1.4 Santa Catalina Island Fox

The Santa Catalina Island fox is a federally listed endangered species and state threatened species. Per the CNDDB and survey there are documented occurrences of Island fox in this area. Fox scat and latrines were observed throughout the Project area and a live fox was observed foraging near the Project area. Currently construction activities are schedule to occur through early March, which is outside of the whelping season April to September. If the Project becomes delayed, the survey area should be surveyed in order to identify the presence of active den sites within close proximity to the Project Area. In order to reduce the potential for impacts to foxes, the preventative measures such as those described below should be implemented to minimize the potential for impacts to the species.

6.2 LIMITATIONS THAT MAY INFLUENCE RESULTS

Due to the nature of the project timeline, the site surveys could not be conducted during the optimal time (i.e., springtime following a favorable rainy season) for identifying most plant species, including some special-status plants that may occur in the Project area. However, based on the disturbed nature of the Project impact area, the Project is not expected to result in significant adverse impacts to any native plant and/or wildlife species, including any special-status species.

7.0 CONCLUSION

The proposed action will be confined to the MGT site and associated laydown areas. None of the proposed project elements are located within any SEA/SERA designated areas, Blue Cavern Point SEA and Upper Isthmus Canyon SEA boundaries are located approximately 0.5 miles away from the Project area, and in different drainages and are not expected to be adversely affected by the project. In addition, connectivity and movement corridors are not expected to be impacted by the proposed project activities. No potential jurisdictional waters of the United States were found to be present within a 50-ft radius of the proposed work sites. The two ephemeral drainages within the survey area will not be impacted project activities.

The Project does not involve any grading or vegetation removal. Thus, the area of disturbance is expected to be limited to previously disturbed areas, which reduces the potential to impact special-status species. Thus, the likelihood of uprooting a potential special-status plant or harming special-status wildlife that has nested, or taken cover in the vegetation is extremely low. To comply with Fish and Game Code Sections 3503, 3503.5, 3511 and 3513 and the Migratory Bird Treaty Act Section 703, which prohibit the taking of active bird nests, Project operations should occur outside of the nesting bird season of February 1 – August 31. Since the Project is scheduled to occur during the nesting bird season, avoidance and minimization measures described below should be implemented to reduce the potential for impacts on nesting birds.

The Project site provides suitable habitat for Catalina Island fox and foxes have been documented on-site. Measures should be implemented to reduce the impact to Catalina Island fox. The Project has the potential to affect individual plants or wildlife discussed in this report. If the avoidance and minimization measures provided below are effectively implemented, they will greatly minimize the potential for impacts to these species.

8.0 AVOIDANCE AND MINIMIZATION MEASURES

To minimize effects to special-status species, and biological resources in general, the following avoidance and minimization measures should be implemented. Adhering to these measures will ensure impacts to sensitive resources are minimized or avoided.

- To avoid effects to nesting birds, in compliance with the Migratory Bird Treaty Act, SCE will attempt to replace towers outside of the bird nesting season of February 1 to August 31. If construction must take place during this time period, a biologist will perform a pre-

construction nest survey. If active nests are found, construction will be delayed until after the chicks have fledged, or until the nest is otherwise inactive.

- All holes or trenches must be covered at the end of each day to prevent any animal, especially the Santa Catalina Island fox, from potentially falling down the hole or trench. The holes and trenches should be covered with plywood and soil along the edges with a large rock or other suitable weight placed on top to prevent anything from accidentally getting trapped in the hole or trench. Holes and trenches should be checked in the morning prior to the start of work and any trapped wildlife should be removed by qualified personnel. Handling of the endangered Santa Catalina Island fox by unauthorized personnel is strictly prohibited. In addition, no open water containers shall be left unattended in the work area unless they are outfitted with escape ramps or other preventative devices.
- A biological monitor should be on site during all Project-related activities to ensure that construction activities do not adversely affect any rare plants found during the pre-construction survey, nesting birds, or any other sensitive biological resources/features in the proposed action area. If any special-status wildlife or nesting birds are observed, the biologist should work with the construction crew to develop a plan that best avoids adverse effects.
- All special-status plant populations within the proposed action area should be flagged prior to any ground disturbance and monitored during implementation to ensure avoidance.
- Vehicles and crew should remain on existing access roads to the greatest extent possible. No new roads should be created.
- Vehicles should maintain a speed of no more than 15 mph when traveling on access roads.
- The area of disturbance should be confined to the smallest practical area, considering topography, placement of towers, location of burrows (if any are located) or vegetation, public health and safety, and other limiting factors.
- Crews should avoid contact with any wildlife encountered.
- Remove all trash from the jobsite daily and remove all construction debris at the end of the job.

9.0 REFERENCES

American Ornithologists' Union. 1998. Check-list of North American Birds. Seventh edition. American Ornithologists' Union, Washington, D.C. 829 pp. Available at: http://www.aou.org/checklist/north/index.php

Baker, R.J., L.C. Bradley, R.D. Bradley, J.W. Dragoo, M.D. Engstrom, R.S. Hoffman, C.A. Jones, F. Reid, D.W. Rice, & C. Jones. 2003. Revised Checklist of North American Mammals North of Mexico, 2003. Museum of Texas Tech University Occasional Papers 229:1-23. Available at: http://www.nsrl.ttu.edu/publications/opapers/ops/op229.pdf

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken (eds.). 2012. The Jepson Manual, vascular plants of California, second edition. University of California Press, Berkeley, CA.

CalFlora. 2014. The CalFlora Database: information on California plants for education, research and conservation [web application]. The CalFlora Database, Berkeley, California. http://www.calflora.org/. Accessed January 2015.

CDFW (California Department of Fish and Wildlife) Natural Diversity Database. January 2015. Special Animals List. Periodic publication. 50 pp. California Department of Fish and Wildlife, Sacramento, CA.

CDFW (California Department of Fish and Wildlife) Natural Diversity Database. January 2015. Special vascular plants, bryophytes, and lichens list. January 2015. California Department of Fish and Wildlife, Sacramento, CA.

CDFW (California Department of Fish and Wildlife) Biogeographic Information and Observation System (BIOS). Retrieved January 29, 2015 from http://bios.dfg.ca.gov.

CNDDB (California Natural Diversity Database). 2015. Rarefind 5 [Internet]. California Department of Fish and Wildlife [v5].

CNPS, Rare Plant Program. 2015. Inventory of Rare and Endangered Plants (online edition, v8-02). California Native Plant Society, Sacramento, CA. Website http://www.rareplants.cnps.org [accessed 29 January 2015].

Collins, Joseph T. and Travis W. Taggart. 2009. Standard Common & Current Scientific Names for North American Amphibians, Turtles, Reptiles, and Corcodilians. Sixth Edition. Publication of the Center for North American Herpetology, Lawrence. iv + 44 pp. Available at: http://www.cnah.org/index.asp

eBird. 2012. eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available at: http://www.ebird.org. (Accessed January, 2015).

The Jepson Flora Project. 2012. Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California. University and Jepson Herbaria of the University of California at Berkeley and Regents of the University of California.

LSA Associates, Inc. 2014. Biological Assessment for Howland's Landing Well Project - Catalina, California. Letter to SCE biologist Andrew Keller by LSA biologist Eric Krieg, September, 2014. Irvine, California.

NOAA (National Oceanic and Atmospheric Administration) National Climatic Data Center (NCDC), 2014. U.S. Palmer Drought Indices—Climate of 2014. National Oceanic and Atmospheric Administration, Asheville, NC. http://www.ncdc.noaa.gov/oa/climate/research/prelim/drought/palmer.html (Accessed January, 2015).

Sawyer, J., T. Keeler-Wolf, and J. Evens. 2009. A Manual of California Vegetation, Second Edition. California Native Plant Society. Sacramento, CA.

United States Department of Agriculture, Natural Resources Conservation Service. 2008. Soil survey of Santa Catalina Island, California.

APPENDIX A:
CALIFORNIA NATURAL DIVERSITY DATABASE
SPECIAL-STATUS SPECIES POTENTIAL TO OCCUR TABLE

TABLE 3: SUMMARY OF SPECIAL-STATUS PLANT SPECIES POTENTIALLY OCCURRING OR KNOWN TO OCCUR IN THE PROJECT AREA

Species	Habitat And Distribution	Flowering Period	Status	Occurrence Probability
Red sand-verbena *Abronia maritima*	Perennial herb found in the Coastal Strand and Coastal Dunes community below 330 ft elevation. San Luis Obispo south to San Diego County; Channel Islands.	February–November	CNPS: 4.2	**Low.** Suitable habitat lacking on site. No reported occurrences in immediate vicinity.
Island broom *Acmispon dendroideus var. dendroideus*	Coastal Bluff Scrub, Closed-cone Coniferous Forest, Chaparral, Cismontane Woodland, and Coastal Scrub from 10 to 1,500 ft elevation. Several Channel Islands.	January–August	CNPS: 4.2	**Low.** Species not documented on site but may occur nearby.
Aphanisma *Aphanisma blitoides*	Coastal Bluff Scrub, Coastal Dunes, Coastal Sage Scrub below 1,000 ft elevation. A population in Laguna Beach along bluff at Arch Beach, and another at Reef Point & Crystal Cove.	April–May	CNPS: 1B.2	**Low.** Suitable habitat lacking on site. No reported occurrences in immediate vicinity.
Santa Catalina Island manzanita *Arctostaphylos catalinae*	Associated with volcanic soils in Chaparral, from 75 to 1,970 ft elevation. Recovering after removal of feral goats; occurrence specific to Santa Catalina Island.	March–April	CNPS: 1B.2	**Low.** Suitable habitat lacking on site. No reported occurrences in immediate vicinity.
Coulter's saltbush *Atriplex coulteri*	Alkaline depressions in Coastal Bluff Scrub, Coastal Dunes, Coastal Scrub, Valley & Foothill Grassland; Los Angeles County east to western San Bernardino County and south to Baja California.	March–October	CNPS: 1B.2	**Low.** Suitable habitat lacking on site. No reported occurrences in immediate vicinity.
South Coast saltscale *Atriplex pacifica*	Annual herb found in Coastal Sage Scrub, Playas and Chenopod Scrub in association with alkali soils.	March–October	CNPS: 1B.2	**Low.** Suitable habitat lacking on site. No reported occurrences in immediate vicinity.
Davidson's *saltscale Atriplex serenana var. davidsonii*	Alkaline flats and coastal bluffs below 660 ft elevation. Coastal Bluff Scrub, Coastal Sage Scrub; Coastal Los Angeles County to Laguna Beach, Orange County.	April–October	CNPS: 1B.2	**Low.** Suitable habitat lacking on site. No reported occurrences in immediate vicinity.
Golden-spined cereus *Bergerocactus emoryi*	Chaparral, Coastal Sage Scrub often in sandy soils on dry, coastal hills below 1,300 ft elevation. Coastal San Diego County south of Del Mar, San Clemente and Santa Catalina Islands, northwest Baja California.	May–June	CNPS: 2B.2	**Low** Suitable habitat occurs on site.
Round-leaved filaree *California macrophylla*	Clay soils in cismontane woodland, valley and foothill grassland. 50 to 4,000 ft elevation.	March–May	CNPS: 1B.1	**Medium.** Suitable habitat on site, Species not observed on site but documented nearby.

TABLE 3: SUMMARY OF SPECIAL-STATUS PLANT SPECIES POTENTIALLY OCCURRING OR KNOWN TO OCCUR IN THE PROJECT AREA

Species	Habitat And Distribution	Flowering Period	Status	Occurrence Probability
Catalina mariposa lily *Calochortus catalinae*	Heavy soil, on open grassy slopes and openings in brush, below 2,000 ft elevation in Chaparral, Coastal Sage Scrub, Valley and Foothill Grassland. San Diego County to San Luis Obispo County; Santa Catalina, Santa Cruz and Santa Rosa Islands.	February–May	CNPS: 4.2	**Medium.** Suitable habitat occurs on site, no occurrences within the area.
Island morning-glory *Calystegia macrostegia*	Rocky areas within Coastal Bluff Scrub, Coastal dunes, and Valley and foothill grasslands from 30 to 900 feet in elevation.	February - July	CNPS: 4.3	**Low.** Suitable habitat lacking on site. No reported occurrences in immediate vicinity.
Island ceanothus *Ceanothus megacarpus var. insularis*	Sandy habitats along Chaparral, from 100 to 2,000 ft elevation. Occurs on several Channel Islands.	December–April	CNPS: 4.3	**Low.** Suitable habitat lacking on site. No reported occurrences in immediate vicinity.
Southern tarplant *Centromadia parryi ssp. australis*	Coastal Salt Marsh margins, vernally mesic Grasslands, Vernal Pools, often in ruderal, disturbed areas (e.g., drainage ditches, dirt road edges, road ruts, etc.) below 1,400 ft elevation. Coastal Southern California from Santa Barbara County south to northern Baja California; possibly Santa Catalina Island.	June–November	CNPS: 1B.1	**Low.** Suitable habitat lacking on site. No reported occurrences in immediate vicinity.
Island mountain-mahogany *Cercocarpus betuloides var. blancheae*	Closed-cone coniferous forest and Chaparral, from 100 to 2,000 ft elevation. Ventura County south to Los Angeles County; several Channel Islands.	February–May	CNPS: 4.3	**Medium.** Suitable habitat on site, no observations within the vicinity of the Project area.
Catalina Island mountain-mahogany *Cercocarpus traskiae*	Chaparral, Coastal Scrub, associated with sausserite gabbro soils, from 330 to 820 ft elevation. Occurrence specific to Santa Catalina Island.	March–May	FE, SE, CNPS: 1B.1	**Low.** Species not documented on site but may occur nearby. Project area located below elevational range and lacks suitable soil conditions.
Seaside cistanthe *Cistanthe maritima*	Coastal Bluff Scrub, Coastal Scrub, Valley and Foothill Grassland on sea bluffs in sandy soils. Santa Barbara County to Baja California; Channel Islands.	March–May	CNPS:: 4.2	**Low.** Suitable habitat lacking on site. No reported occurrences in immediate vicinity.

TABLE 3: SUMMARY OF SPECIAL-STATUS PLANT SPECIES POTENTIALLY OCCURRING OR KNOWN TO OCCUR IN THE PROJECT AREA

Species	Habitat And Distribution	Flowering Period	Status	Occurrence Probability
Nevin's woolly sunflower *Constancea nevinii*	Deciduous shrub found in Coastal Bluff Scrub and Coastal Scrub from 16 to 1,300 ft elevation. Santa Catalina, Santa Barbara, and San Clemente Islands.	April–August	CNPS: 1B.3	**Low.** No reported occurrences in immediate vicinity. Usually found along coastline.
Island rush-rose *Crocanthemum greenei*	Cismontane woodlands, Closed-cone Coniferous Forests, Chaparral, and rocky Coastal Scrub, associated with dry slopes and stony ridges from 50 to 1,600 ft elevation; several Channel Islands.	March–July	FT, CNPS: 1B.2	**Low.** Marginally suitable habitat present.
Catalina crossosoma *Crossosoma californicum*	Associated with rocky substrates in Chaparral and Coastal Scrub, below 1,600 ft elevation; Los Angeles County south to Baja California; San Clemente and Santa Catalina Islands.	February–May	CNPS: 1B.2	**Present.** Observed on site, suitable habitat present
Wiggin's cryptantha *Cryptantha wigginsii*	Annual herb primarily found in Coastal Scrub with clay soils, from 65 to 250 ft elevation.	February-June	CNPS: 1B.2	**High.** Suitable habitat present on site, and CNDDB occurrences in the area
South island bush-poppy *Dendromecon harfordii var. rhamnoides*	Coastal Scrub, Cismontane Woodland, Chaparral, often along brushy slopes, from 490 to 1,700 ft elevation; Santa Catalina Island.	April–June	CNPS: 3.1	**Low.** Marginally suitable habitat present. Outside of elevational range of species.
Western dichondra *Dichondra occidentalis*	Primarily found on dry, sandy slopes, in brush, and under shrubs/trees from 150 to 1,700 ft elevation. Coastal Sage Scrub, Chaparral, and Southern Oak Woodland. Coastal counties from Santa Barbara County to n. Baja California; several Channel Islands.	March–May	CNPS: 4.2	**Low.** No suitable habitat on site, and no CNDDB records within the area.
California dissanthelium *Dissanthelium californicum*	Coastal Sage Scrub, from 16 to 1,600 ft elevation. Threatened by non-native plants and feral animals; San Clemente and Santa Catalina Islands; Guadalupe Island.	March–May	CNPS: 1B.2	**Medium.** Suitable habitat on site, no observations within the vicinity of the Project area.
Beach spectaclepod *Dithyrea maritima*	Primarily occurs on sandy Coastal Scrub, and Coastal dunes below 160 ft elevation. San Luis Obispo south to Santa Barbara County; several Channel Islands; Baja California.	March–May	ST, CNPS: 1B.1	**Low.** Suitable habitat lacking on site.

TABLE 3: SUMMARY OF SPECIAL-STATUS PLANT SPECIES POTENTIALLY OCCURRING OR KNOWN TO OCCUR IN THE PROJECT AREA

Species	Habitat And Distribution	Flowering Period	Status	Occurrence Probability
Catalina Island dudleya *Dudleya virens ssp. hassei*	Associated with rocky bluffs and volcanic cliffs in Coastal Bluff Scrub, Coastal Sage Scrub, Chaparral, and Cismontane Woodland below 800 ft elevation. Several Channel Islands.	May–July	CNPS: 1B.2	**High.** Suitable habitat on site, CNDDB occurrences nearby.
Island green dudleya *Dudleya virens ssp. insularis*	Coastal Bluff Scrub and rocky Coastal Scrub from 16 to 1,000 ft elevation. Ventura and Los Angeles Counties; San Nicholas and Santa Catalina Islands.	April–June	CNPS: 1B.2	**Present.** Suitable habitat lacking on site.
Bright green dudleya *Dudleya virens ssp. virens*	Primarily found along rocky cliffs, in Coastal Scrub, Coastal Bluff Scrub, and Chaparral below 1,300 ft elevation. Santa Catalina and San Clemente Islands; Point San Vicente.	April–July	CNPS: 1B.2	**Low.** Suitable habitat lacking on site.
Santa Catalina Island buckwheat *Eriogonum giganteum var. giganteum*	Dry, rocky slopes in Coastal Scrub and Chaparral, from 30 to 1,750 ft elevation. Occurrence specific to Santa Catalina Island.	March–October	CNPS: 4.3	**Present.** Suitable habitat on site, observed on slopes
Island buckwheat *Eriogonum grande var. grande*	Primarily found along bluffs and cliffs in Coastal Bluff Scrub, Coastal Sage Scrub, and Valley and Foothill Grassland, from 10 to 1,500 ft elevation. Several Channel Islands.	June–October	CNPS: 4.2	**Low.** Suitable habitat lacking on site, though may be present nearby.
Island poppy *Eschscholzia ramosa*	Coastal Bluff Scrub, Coastal Scrub, and Chaparral; often along grassy or rocky areas below 1,250 ft elevation. Several Channel Islands; Guadalupe Island.	March–May	CNPS: 4.3	**Present.** Suitable habitat on site, observed on western facing slopes on Project site.
Cliff spurge *Euphorbia misera*	Primarily on rocky, sea bluffs in Coastal Bluff Scrub from 30 to 1,600 ft elevation. Corona Del Mar (Orange County) south to Baja California; San Clemente and Santa Catalina Islands.	January–August	CNPS: 2B.2	**Low.** Suitable habitat lacking on site.
Santa Catalina Island bedstraw *Gallium catalinense ssp. catalinense*	Associated with dry, rocky substrates along canyons in Coastal Scrub and Chaparral, below 1,000 ft elevation; occurrence specific to Santa Catalina Island.	February–July	CNPS: 1B.2	**Medium.** suitable habitat present on site and CNDDB occurrences within the vicinity

TABLE 3: SUMMARY OF SPECIAL-STATUS PLANT SPECIES POTENTIALLY OCCURRING OR KNOWN TO OCCUR IN THE PROJECT AREA

Species	Habitat And Distribution	Flowering Period	Status	Occurrence Probability
Nuttall's island bedstraw *Gallium nuttallii ssp. insulare*	Chaparral, Cismontane Woodland, Coastal Scrub, and Lower Montane Coniferous Forest from 10 to 1,450 ft elevation. Several Channel Islands.	March–June	CNPS: 4.3	**Low.** Suitable habitat lacking on site.
Showy island snapdragon *Gambelia speciosa*	Primarily occurs along rocky canyons in Coastal Scrub, below 3,000 ft elevation. Channel Islands and Guadalupe Island.	February–May	CNPS: 1B.2	**Present.** Suitable habitat on site. Observed along top of slopes on the Project site.
Baja rock lichen *Graphis saxorum*	Associated with rocky substrates, volcanic rocks, and moderately shady areas from 65 to 330 ft elevation. Occurrence specific to Santa Catalina Island.	year-round	CNPS: 3	**Medium.** Marginal habitat on site and CNDDB occurrences nearby.
Palmer's grapplinghook *Harpagonella palmeri*	Chaparral, Coastal Scrub, Valley and Foothill Grassland in clay soils on dry slopes and mesas below 1,500 ft elevation. Cismontane southern California from Los Angeles County to northwest Baja California; Santa Catalina Island.	March–April	CNPS: 4.2	**Medium.** Suitable habitat exists on site.
Vernal barley *Hordeum intercedum*	Saline streambeds; alkaline flats and depressions in Grasslands; Vernal Pools, from 16 to 3,300 ft elevation. Cismontane Southern California, including Channel Islands, to northwest Baja California.	March–June	CNPS: 3.2	**Low.** Suitable habitat lacking on site.
Decumbent goldenbush *Isocoma menziesii var. decumbens*	Found in Chaparral and Coastal scrub habitats with sandy or disturbed areas.	April - November	CNPS: 1B.2	**High.** Suitable habitat and CNDDB observations present on the project site.
Island jepsonia *Jepsonia malvifolia*	Primarily along canyons and mesas in Coastal Scrub and Chaparral, from 50 to 3,300 ft elevation. Channel Islands and Guadalupe Island.	August–January	CNPS: 4.2	**Low.** Suitable habitat lacking on site.
Southern island mallow *Lavatera assurgentiflora ssp. glabra*	Associated with sandy flats and rocky substrates in Coastal Bluff Scrub, from 16 to 720 ft elevation. San Clemente and Santa Catalina Islands.	May–September	CNPS: 1B.1	**Low.** Suitable habitat lacking on site.

TABLE 3: SUMMARY OF SPECIAL-STATUS PLANT SPECIES POTENTIALLY OCCURRING OR KNOWN TO OCCUR IN THE PROJECT AREA

Species	Habitat And Distribution	Flowering Period	Status	Occurrence Probability
Fragrant pitcher sage *Lepechinia fragrans*	Chaparral, occasionally found in canyons, from 65 to 4,300 ft elevation. San Bernardino County west to Ventura County; several Channel Islands.	March–October	CNPS: 4.2	**Medium.** Species not documented on site but suitable habitat present..
Santa Barbara honeysuckle *Lonicera subspicata var. subspicata*	Dry slopes in Chaparral, Coastal Scrub, and Cismontane woodland, from 100 to 3,200 ft elevation. Santa Barbara County south to Los Angeles County; Santa Catalina Island.	May–August	CNPS: 1B.2	**Low.** Species not documented on site but may occur nearby.
Santa Catalina Island desert-thorn *Lycium brevipes var. hassei*	Coastal Sage Scrub and Coastal Bluff Scrub from 30 to 1,000 ft elevation. Los Angeles and Orange Counties.	June	CNPS: 1B.1	**Low.** Species not documented on site but may occur nearby.
California box-thorn *Lycium californicum*	Dry bluffs and slopes near the coast, Coastal Bluff Scrub and Coastal Sage Scrub from 16 to 500 ft elevation. Santa Barbara County south to San Diego County and Mexico, includes San Bernardino County; Channel Islands.	March–August	CNPS: 4.2	**Low.** Species not documented on site but may occur nearby.
Santa Catalina Island ironwood *Lyonothamnus floribundus ssp. floribundus*	Dry slopes and canyons in Broad-leafed Upland Forests, Chaparral, and Cismontane Woodland, from 250 to 1,640 ft elevation. Occurrence specific to Santa Catalina Island.	May–June	CNPS: 1B.2	**Low.** Species not documented on site but may occur nearby.
Santa Catalina Island monkeyflower *Mimulus traskiae*	Coastal Scrub habitats, occurrence specific to Santa Catalina Island. Presumed to be extinct.	March–April	CNPS: 1A	**Low.** Species not documented on site and presumed extinct.
Coast woolly-heads *Nemacaulis denudata var. denudata*	Sandy places such as Coastal Dunes, Coastal Strand (beaches), etc. Below 350 ft elevation. Coastal Southern California from Los Angeles County south to n. Baja Calif.; possibly Santa Catalina Island.	April–September	CNPS:: 1B.2	**Low.** Site lacks suitable habitat.

TABLE 3: SUMMARY OF SPECIAL-STATUS PLANT SPECIES POTENTIALLY OCCURRING OR KNOWN TO OCCUR IN THE PROJECT AREA

Species	Habitat And Distribution	Flowering Period	Status	Occurrence Probability
Short-lobed broomrape *Orobanche parishii ssp. brachyloba*	Sandy soils near beaches and coastal dunes, in Coastal Scrub and Coastal Bluff Scrub from 10 to 1,000 ft elevation. San Luis Obispo south to San Diego County; Channel Islands.	April–October	CNPS: 4.2	**Low.** Site lacks suitable habitat.
Lyon's pentachaeta *Pentachaeta lyonii*	Edges of firebreaks/dirt roads; openings in Chaparral and Sage/Cactus Scrub; ecotones between Grasslands and Chaparral from 100 to 2,060 ft elevation. Santa Catalina Island; coastal Los Angeles County.	March–April	FE, SE CNPS: 1B.1	**High.** Suitable conditions exist on site and nearby CNDDB records.
Chaparral rein orchid *Piperia cooperi*	Chaparral, Cismontane Woodland, Valley and Foothill Grassland from 50 to 5,200 ft elevation. Threatened by urbanization and horticultural collecting. Ventura County east to San Bernardino County, south to Baja California; Santa Catalina Island.	March–June	CNPS: 4.2	**Low.** Marginally suitable conditions exist on site.
Island scrub oak *Quercus pacifica*	Evergreen shrub found in Closed-cone Coniferous Forest, Chaparral, and Cismontane Woodland, below 1,000 ft elevation. Several Channel Islands.	March–April	CNPS: 4.2	**Present.** Observed on site, Suitable habitat present on site.t
Island oak *Quercus tomentella*	Closed-cone Coniferous Forest, Chaparral, Cismontane Woodland, Riparian Woodland, often occurs in canyons and ravines, from 50 to 2,400 ft elevation. Several Channel Islands and Guadalupe Island.	March–July	CNPS: 4.2	**Low.** Marginally suitable conditions exist on site.
Island redberry *Rhamnus pirifolia*	Coastal Sage Scrub, Chaparral, Closed-cone Coniferous Forest, Cismontane Woodland from 65 to 1,400 ft elevation. Channel Islands and Guadalupe Island.	February–July	CNPS: 4.2	**Medium.** Species not documented on site but suitable habitat present.
Santa Catalina Island currant *Ribes viburnifolium*	Primarily in Chaparral and Cismontane Woodland, among shrubs and in canyons, from 100 to 1,000 ft elevation. Los Angeles County south to Baja California; Santa Catalina Island.	February–April	CNPS: 1B.2	**High.** Suitable habitat and nearby occurrences; not detected during surveys.
Santa Catalina figwort *Scrophularia villosa*	Chaparral and Coastal Sage Scrub, along rocky canyons from 150 to 1,670 ft elevation. San Clemente and Santa Catalina Islands.	April–August	CNPS: 1B.2	**Medium.** Marginally suitable habitat present on site.

TABLE 3: SUMMARY OF SPECIAL-STATUS PLANT SPECIES POTENTIALLY OCCURRING OR KNOWN TO OCCUR IN THE PROJECT AREA

Species	Habitat And Distribution	Flowering Period	Status	Occurrence Probability
Chaparral ragwort *Senecio aphanactis*	Found in Chaparral, Cismontane woodland, and Coastal scrub habitats from 50 - 2625 feet.	January - April	CNPS: 2B.2	**Medium.** Marginally suitable habitat present on site. No CNDDB records.
Santa Cruz Island rock cress *Sibara filifolia*	Associated with rocky, volcanic substrates in Chaparral and Coastal Sage Scrub, often along shaded slopes, from 200 to 1,000 ft elevation. San Clemente and Santa Catalina Islands.	March–April	CNPS: 1B.1	**Low.** Suitable habitat lacking on site.
Wallace's nightshade *Solanum wallacei*	Chaparral and Cismontane Woodland, along dry rocky slopes and canyons, from 10 to 1,350 ft elevation. Santa Catalina and Santa Cruz Islands; Guadalupe Island.	March–August	CNPS: 1B.1	**Low.** Marginally suitable habitat present on site.
California screw moss *Tortula californica*	Sandy soils in Chenopod scrub and Valley and foothill grassland habitats at 30-4,800 ft elevation.		CNPS:1B.2	**Low.** Suitable habitat lacking on site.

Key:

Federal Status:
FE Federally Listed Endangered
FT Federally Listed Threatened
FPE Federally proposed (Endangered)
FPT Federally proposed (Threatened)
FC Federal Candidate
FSC Federal Species of Concern

State Status:
SE State listed as endangered
ST State listed as threatened
SR State listed as rare
SCE State candidate for listing as Endangered
SCT State candidate for listing as Threatened

California Native Plant Society (CNPS) List:
1A Presumed extinct in California
1B Rare or Endangered in California and elsewhere
2 Rare or Endangered in California, more common elsewhere
3 Plants for which we need more information - Review list
4 Plants of limited distribution – Watch list
.1 Seriously endangered in California

.2 Fairly endangered in California
.3 Not very endangered in California

TABLE 4: SUMMARY OF SPECIAL-STATUS ANIMAL SPECIES POTENTIALLY OCCURRING OR KNOWN TO OCCUR IN THE PROJECT AREA

Common Name	Status Listing	Habitat and Comments	Habitat Present/ Absent	Occurrence Probability
Invertebrates				
Sandy beach tiger beetle *Cicindela hirticollis gravida*	None	Inhabits areas with clean, dry, light-colored sand in the upper zone, adjacent to non-brackish water. Occurs along the coast of California from San Francisco bay to Northern Mexico, including Santa Catalina Island. Subterranean larvae prefer moist sand not affected by wave action.	A	**Low.** Suitable beach habitat is absent from the project area.
Globose dune beetle *Coelus globosus*	None	Inhabits foredunes and sand hummocks in sand dune habitat and is most common beneath dune vegetation. Occurs from Bodega Head in Sonoma County South to Ensenada, Mexico, including Santa Catalina Island.	A	**Low.** Suitable dune habitat is absent from the project area.
Santa Catalina lancetooth *Haplotrema catalinense*	None	Occurs only on Santa Catalina Island, approximately at 100 ft elevation.	A	**Medium**. Suitable rocky habitat is absent from the project area.
Shepard's snail Pristiloma shepardae	None	Usually found in moist leaf litter, occurs only on Santa Catalina and Santa Cruz Islands.	A	**Low.** Suitable mesic habitat is absent from the project area.
Catalina mountainsnail *Radiocentrum avalonense*	None	Inhabits Coastal Sage Scrub dominated by *Salvia* and *Opuntia*. Occurs on the southeast end of Santa Catalina Island.	A	**Low.** Suitable mesic habitat is absent from the project area.
San Clemente Island blunt-top snail *Sterkia clementina*	None	Inhabits the undersides of rocks or the soil beneath ice plants; occurs on several Channel Islands.	A	**Low.** Suitable mesic habitat is absent from the project area.
REPTILES				
Santa Catalina two-striped garter snake *Thamnophis hammondii ssp.*	SSC	Found in a variety of aquatic or semi-aquatic habitats, and occurs only on Santa Catalina Island.	A	**Low.** Suitable mesic habitat is absent from the project area.

TABLE 4: SUMMARY OF SPECIAL-STATUS ANIMAL SPECIES POTENTIALLY OCCURRING OR KNOWN TO OCCUR IN THE PROJECT AREA

Common Name	Status Listing	Habitat and Comments	Habitat Present/ Absent	Occurrence Probability
Island night lizard *Xantusia riversiana*	FD	Found in maritime desert scrub, grassland, chaparral, oak savanna, cactus, dry streambeds, cliffs, rocky beaches, sparsely-vegetated areas. Takes shelter in cracks in rocks or in the ground, and under surface objects such as rocks, fallen vegetation and beach driftwood.	P	**Low.** Marginal habitat on site. No records within the project area.
BIRDS				
southern California rufous-crowned sparrow *Aimophila ruficeps canescens*	SWL	Nests in a wide variety of woodland and forest habitats; rare on the Channel Islands but has nested on Santa Cruz.	P	**Low.** Potentially suitable nesting habitat for this species is present within the project area. No observations within the project area
Santa Cruz Island rufous-crowned sparrow *Aimophila ruficeps obscura*	CSC	Occurs in dense grasslands, preferring native grasslands with a mixture of forbs and shrubs; rare on the Channel Islands but does nest on San Clemente.	A	**Low.** Suitable nesting habitat is absent from the project area. No observations within the project area
Golden eagle *Aquila chrysaetos*	SFP, SWL	Grasslands, brushlands, deserts, oak savannas, open coniferous forests and montane valleys; rare on the Channel Islands but has nested on Santa Cruz and Santa Rosa.	A	**Low.** Suitable nesting habitat is absent from the project area.
Short-eared owl (nesting) *Asio flammeus*	CSC	Open country, usually with tall grass, in scattered regions around the Northern Hemisphere; rare on the Channel Islands but has nested on Santa Barbara.	A	**Low.** Suitable nesting habitat is absent from the project area.
Long-eared owl (nesting) *Asio otus*	CSC	Dense willow-riparian woodland and oak woodland; rare on the Channel Islands but has nested on Santa Catalina.	A	**Low.** Suitable nesting habitat is absent from the project area.

TABLE 4: SUMMARY OF SPECIAL-STATUS ANIMAL SPECIES POTENTIALLY OCCURRING OR KNOWN TO OCCUR IN THE PROJECT AREA

Common Name	Status Listing	Habitat and Comments	Habitat Present/ Absent	Occurrence Probability
Burrowing owl (burrow sites) *Athene cunicularia*	CSC, USFWS: BCC	Burrows in open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably the California ground squirrel. Believed to be resident on Santa Catalina Island.	A	**Low.** Suitable nesting habitat is absent from the project area.
Catalina California quail *Callipepla californica catalinensis*	CSC	Open scrub and woodland on the larger Channel Islands.	P	**High.** Suitable habitat for this species is present within the project area.
Vaux's swift *Chaetura vauxi*	CSC	Nests in coniferous or mixed forest. Forages in forest openings, especially above streams.	A	**Low.** Suitable nesting habitat is absent from the project area.
American peregrine falcon *Falco peregrinus anatum*	FD, SD, SFP	Widespread, but scarce and local throughout North America. Wetlands near high cliffs; few known to nest in urban settings on tall buildings. Known to nest on Santa Catalina Island.	P	**Low.** Suitable nesting habitat is absent from the project area but foraging is possible.
Bald eagle *Haliaeetus leucocephalus*	FD, SE	Inhabits ocean shores, lake margins, and rivers for both nesting and wintering. Nests are usually within 1 mi of water. Breeding and fostering programs established on Santa Catalina Island.	P	**Low**. No nesting habitat is present. Observed during field surveys.
Island loggerhead shrike *Lanius ludovicianus anthonyi*	CSC USFWS:BCC,	Open fields with scattered trees or shrubs, open country with short vegetation, pastures, old orchards, cemeteries, golf courses, riparian areas, and open woodlands; restricted to Santa Catalina and the northern Channel Islands.	P	**Present.** Suitable habitat for this species is present within the project area.
Black-crowned night-heron (rookery site) *Nycticorax nycticorax*	None	Occurs in a wide range of wetland habitats in much of the temperate and tropical zones worldwide. Nests primarily in trees, sometimes in urban habitats. Uncommon on Santa Catalina Island and not known to nest there.	A	**Low.** Suitable nesting habitat is absent from the project area.
Osprey *Pandion haliaetus*	SWL	Found in habitat that includes almost any expanse of shallow, fish-filled water, including rivers, lakes, reservoirs, lagoons, swamps, and marshes.	A	**Low.** Suitable nesting habitat is absent from the project area.

TABLE 4: SUMMARY OF SPECIAL-STATUS ANIMAL SPECIES POTENTIALLY OCCURRING OR KNOWN TO OCCUR IN THE PROJECT AREA

Common Name	Status Listing	Habitat and Comments	Habitat Present/ Absent	Occurrence Probability
California brown pelican *Pelecanus occidentalis californicus*	FD, SD, SFP	Brown Pelicans live year-round in estuaries and coastal marine habitats along the coast They rest on sandbars, pilings, jetties, breakwaters, mangrove islets, and offshore rocks	A	**Low**. Suitable nesting habitat is absent from the project area.
San Clemente spotted towhee *Pipilo maculatus clementae*	CSC, USFWS: BCC	Chaparral and woodland on Santa Rosa and Santa Catalina Islands; extirpated from San Clemente Island.	P	**High.** Suitable habitat for this species is present within the project area.
coastal California gnatcatcher *Polioptila californica californica*	FT, SSC	Prefers open sage scrub with California sagebrush as a dominant or co-dominant species. More abundant near sage scrub-grassland interface than where sage scrub grades into chaparral. Dense sage scrub occupied less frequently than more open sites.	A	**Low**. Marginally suitable nesting habitat for this species is present within the project area. No records in the project area
Allen's hummingbird (nesting) *Selasphorus sasin*	USFWS: BCC	Nests in residential areas, chaparral, open oak woodland, and riparian woodland in coastal areas the length of California, including the Channel Islands. Generally restricted to exotic vegetation in urban areas in winter.	P	High. Suitable nesting habitat for this species is present within the project area.
Chipping sparrow *Spizella passerine*	None	Primarily open forests and woodlands, more widespread in winter; breeds throughout much of North America, including the larger Channel Islands.	P	Low. suitable nesting habitat for this species is not present within the project area.
Scripps's murrelet *Synthliboramphus scrippsi*	FC, ST	Open ocean except during breeding season. Breeds on offshore islands in Southern California including Santa Catalina Island. Nests in rock crevices, under bushes, in old burrows, or in man-made debris.	A	Low. Suitable cliff nesting habitat is absent from the project area.
Catalina Hutton's vireo Vireo huttoni unitti	CSC	Chaparral and oak woodland on Santa Catalina Island.	P	Low. Suitable habitat for this species is present within the project area.
MAMMALS				

TABLE 4: SUMMARY OF SPECIAL-STATUS ANIMAL SPECIES POTENTIALLY OCCURRING OR KNOWN TO OCCUR IN THE PROJECT AREA

Common Name	Status Listing	Habitat and Comments	Habitat Present/ Absent	Occurrence Probability
Townsend's big-eared bat *Corynorhinus townsendii*	SCT,CSC	Found in all but subalpine and alpine habitats throughout California, including the Channel Islands. Requires caves, mines, tunnels, buildings or other similar structures for roosting. Occasionally roosts in hollow spaces of bridges or buildings. Will occasionally roost in hollow trees. Highly sensitive to disturbance.	A	Low. No suitable habitat for this species is present within the project area and vicinity.
Santa Catalina shrew *Sorex ornatus willetti*	CSC	Occurs on larger stream-bearing canyons of Valley Foothill Riparian areas on Santa Catalina Island. Prefers moist areas; uses stumps, logs, and litter for cover.	P	Medium. Potential habitat for this species is present within the project area and vicinity.
Santa Catalina Island fox *Urocyon littoralis catalinae*	FE, ST	Inhabits more complex, layered vegetation in mixed Chaparral, Coastal Scrub, and shrubby Woodland. Found only on Santa Catalina Island.	P	**Present**. Species observed on site. Suitable habitat for this species is present within the project area and vicinity.

Key:
Federal Status:
FE Federally Listed Endangered
FT Federally Listed Threatened
FPE Federally proposed (Endangered)
FPT Federally proposed (Threatened)
FC Federal Candidate
FSC Federal Species of Concern
BCC U.S. Fish & Wildlife Service Bird of Conservation Concern
State Status:
SE State listed as endangered
ST State listed as threatened
SR State listed as rare
SCE State candidate for listing as Endangered
SCT State candidate for listing as Threatened
CSC California Department of Fish and Wildlife species of concern
SWL California Department of Fish and Wildlife watch list species

APPENDIX B:
PLANTS AND WILDLIFE OBSERVED DURING SURVEY

TABLE 5. PLANT SPECIES OBSERVED AT THE MILLION GALLON TANK PROJECT SITE.

Scientific Name	Common Name
Achillea millefolium	yarrow
Adiantum sp	maidenhair fern
*Agave americana**	century plant
*Agave sp.**	agave
Amsinckia menziesii	Menzie's fiddleneck
Artemisia californica	California sagebrush
Bloomeria crocea var. crocea	common goldenstar
*Brassica nigra**	black mustard
*Bromus madritensis ssp. rubens**	red brome
Calandrinia ciliata	redmaids
Calystegia sp.	morning glory
Castilleja affinis	Indian paintbrush
Cryptantha sp.	cryptantha
Dichelostemma capitatum	blue dicks
Digitaria sanguinalis	crabgrass
Dodecatheon clevelandii	island shooting star
Encelia californica	California encelia
Eriogonum giganteum var. giganteum	Santa Catalina Island buckwheat
*Erodium cicutarium**	red-stemmed filaree
Eschscholzia ramosa	Island poppy
*Eucalyptus globulus**	blue gum
Euphorbia sp.	rattlesnake weed / spurge
*Foeniculum vulgare**	sweet fennel
Galium aparine	goose grass
Hesperocnide tenella	western nettle
Heteromeles arbutifolia	toyon / christmas berry
Lupinus concinnus	elegant lupine
Lupinus hirsutissimus	stinging lupine
Lupinus succulentus	arroyo lupine
Lupinus truncatus	collar annual lupine
Malacothamnus fasciculatus	chaparral mallow
Malacothrix saxatilis	cliff aster

Scientific Name	Common Name
Malosma laurina	laurel sumac
*Malva parviflora**	cheeseweed
Marah macrocarpus	chilicothe
*Marrubium vulgare**	common horehound
*Medicago polymorpha**	California burclover
*Medicago polymorpha**	bur clover
Mirabilis laevis	wishbone bush
Opuntia littoralis	coastal prickly pear
Phoenix canariensis	Canary date palm
Pholistoma membranaceum	white fiesta flower
*Pinus sp.**	pine
Polygonum aviculare ssp. depressum	common knotweed
Polypodium californicum	California polypody
Prunus ilicifolia ssp. lyonii	island cherry
Pseudognaphalium biolettii	bicolored everlasting
Quercus pacifica	island scrub oak
Rafinesquia californica	California chicory
Rhus integrifolia	lemonadeberry
Rumex sp.	dock
*Salsola tragus**	Russian thistle
Salvia mellifera	black sage
Sambucus nigra ssp. caerulea	blue elderberry
Sanicula sp	poison sanicle
Scirpus sp.	sedge
Selaginella bigelovii	Bigelow's Spike-moss
Stephanomeria virgata	rod wirelettuce
Stipa cf. cernua	nodding needlegrass
Thysanocarpus laciniatus	narrow-leaved fringepod
*Typha latifolia**	broadleaved cattail

*Indicates non-native species

TABLE 5. LIST OF THE AMPHIBIANS, BIRDS, AND MAMMALS NOTED IN THE PROJECT AREA.

Scientific Name	Common Name
Invertebrates	
Anthocharis sara	Sara Orangetip
Plebejus acmon	Acmon blue butterfly
Vanessa cardui	Painted lady butterfly
Amphibians	
Pseudacris hypochondriaca hypochondriaca	Baja California treefrog
Reptiles	
Uta stansburiana elegans	Western side-blotched lizard
Birds	
Calypte anna	Anna's hummingbird
Cardellina pusilla	Wilson warbler
Corvus corax	common raven
Empidonax difficilis	Pacific slope flycatcher
Falco sparverius	American kestrel
Haemorhous mexicanus	house finch
Larus californicus	California gull
Mimus polyglottos	northern mockingbird
Oreothlypis celata	orange-crowned warbler
Phalacrocorax pelagicus	Pelagic cormorant
Setophaga palmarum	Palm warbler
Thryomanes bewickii	Bewick's wren
Zonotrichia leucophrys	White crowned sparrow
Mammals	
Bison bison	American bison
Odocoileus hemionus	mule deer
Otospermophilus beecheyi	California ground squirrel
Urocyon littoralis catalinae	Santa Catalina Island fox
Zalophus californianus	California sea lion

APPENDIX C:
SITE PHOTOGRAPHS

Photo1. Lemonadeberry/Scrub Oak Woodland located on the western side of the survey area.

Photo 2. Coastal Sage Scrub habitat located on western slope of survey area.

Photo 3. Coastal Sage Scrub habitat located on northwest portion of survey area.

Photo 4. Non-native Annual Grassland located on southern end of Project area.

Photo 5. Million Gallon Tank to be replaced.

Photo 6. Laydown Area #1 and #2 looking south.

Photo 7. Laydown Area #3.

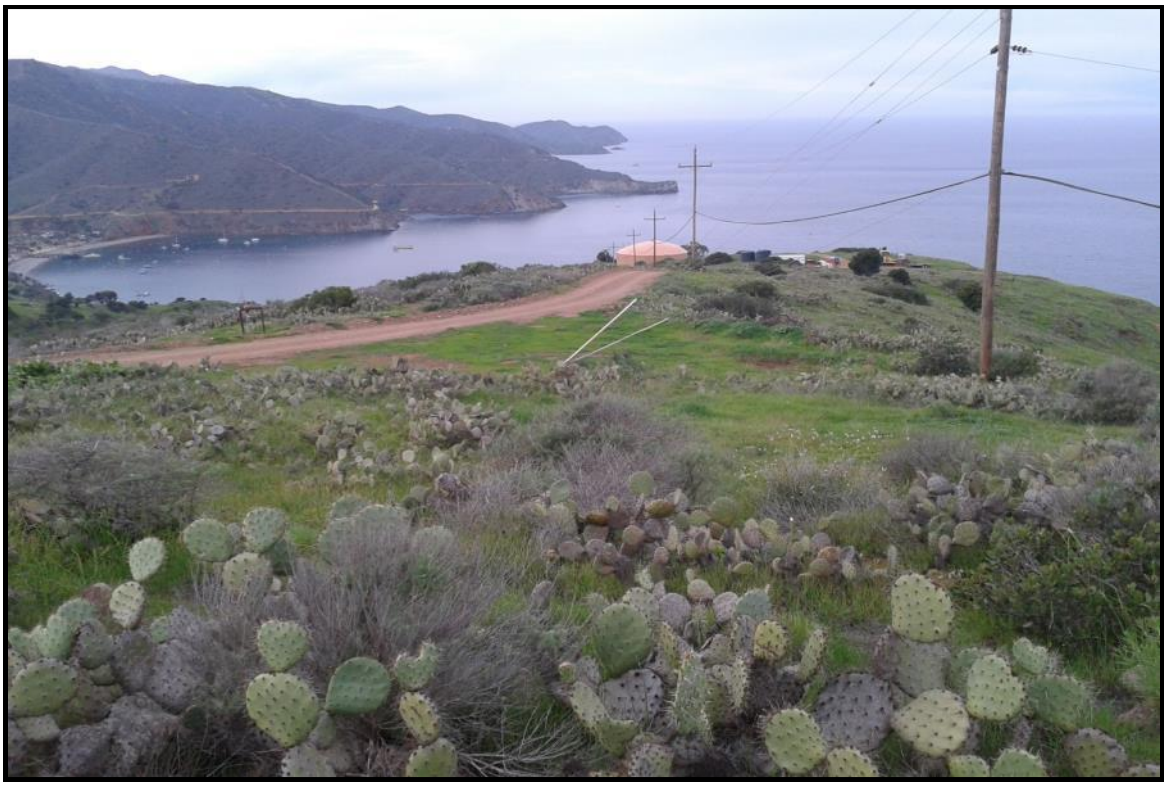


Photo 8. Potential fox den site.

Photo 9. Potential fox den site near Laydown Area #1 and #2.

Photo 10. Island fox latrine located near the Million Gallon Tank.